

REMARKS

Claims 20-35, 37, and 47-55 are pending, and claims 48 and 51 are withdrawn pending the allowance of a generic or a linking claim. By this Amendment, claims 20, 28, 34, and 47 are amended to more particularly point out the claimed invention. Claim 33 is amended to correct wording that lacked antecedent basis. New claims 54 and 55 are added. Support for the amendments to claims 20 and 47 can be found, for example, from page 10, line 10 to page 11, line 24, from page 16, line 15 to page 17, line 26, and from page 35, line 17 to page 41, line 28 of the original application. Support for the amendment to claims 28 and 34 can be found for example, at page 6 lines 30-31, at page 9, lines 4-5, at page 11, lines 26-27, and at page 17, lines 14-26 of the original application. Support for new claims 54 and 55 can be found, for example, at page 9, lines 4-5 and at page 17, lines 14-26. No new matter is added.

Specification Objections

The specification is objected to for failing to disclose the surface capillary fiber having a channel along its outer side that extends substantially parallel to the length of the surface capillary fiber. Respectfully, the Applicants traverse this objection. Having a channel along its outer side that extends substantially parallel to the length of the surface capillary fiber (SCF) is one of the distinguishing features of SCF. The Application has disclosure of this distinguishing feature throughout the specification. For example, from page 6, line 25 to page 7, line 2 of the original application, it reads:

“SCF fibers are characterized by surface channels or capillaries formed within the surface of the fiber. *Surface capillaries are characterized by having a portion of the capillary exposed at the surface of the fiber along the length of the fiber.* The surface capillaries result in significant increase in the surface area of the fibers relative to fibers with a smooth surface and the same diameter. *The*

*surface capillaries generally run along the length of the fiber.* In some embodiments, the surface of the fiber has a plurality of surface channels or capillaries along the length of the fiber. An SCF fiber can have surface channels that essentially make up a large fraction of the bulk of the fiber such that little if any of the interior mass of the fiber is not associated with walls of one or more surface capillaries.”

Again, from page 11, line 26 to page 12, line 6 of the original application, it reads:

“As used herein, *SCF fibers refer broadly to fibers having channels or capillaries along the surface running generally along the length of the fiber or a portion thereof.* Fibers have their usual meaning as structures with a length that is significantly larger than the dimensions along a cross section perpendicular to the length. *The capillaries can run along substantially the entire length or a fraction thereof.* Due to the presence of the capillaries, a cross section through the fiber at the capillary(ies) has a shape with an edge having changing curvatures. A suitable cross sectional shape is shown schematically in Fig. 1A, although any of wide range of cross sectional shapes are suitable as long as a surface capillary is formed. As shown schematically in Fig. 1A, the fiber has eight surface capillaries. For comparison, a fiber without surface capillaries is shown schematically in Fig. 1B at the same magnification as the fiber in Fig. 1A having roughly the same surface area as the fiber in Fig. 1A.”

The original specification of the application therefore has clear and definite description of the surface channel of SCF fiber having a channel along its outer side that extends substantially parallel to the length of the surface capillary fiber. Withdrawal of this objection is respectfully requested.

Claim Objections

Claim 33 was objected to for reciting the limitation “the inner surface” that is considered to have insufficient antecedent basis. Claim 33 is amended to replace “the inner surface” with –the interior surface--. Claim 33 is a dependent claim of claim 28, which refers to an interior surface that is the antecedent basis of the amendment made to claim 33. In view of the amendment, the objection to claim 33 is obviated. The Applicants respectfully request the withdrawal of the objection.

35 U.S.C. §102(b) Rejection

Claims 28-31, 33-35, and 37 are rejected under 35 U.S.C. §102(b) as being anticipated by Deniega et al. (U.S. Patent No. 6,350,253). Respectfully, the Applicants maintain that Deniega does not teach all of the elements of Applicants’ claimed invention. Specifically, the Examiner cited element 54 of Deniega as the comparable equivalent of surface capillary fibers of the claimed invention is simply erroneous. Element 54 of Deniega is a hollow tubular membrane that has pores, not a plurality of surface capillary fibers (SCF) with surface channels as those claimed in the present invention. Deniega (Col. 9, lines 22-23) clearly stated “The tubular porous membrane 54 is preferably a sponge-like or foam-like material or *a hollow fiber*.” In contrast, the surface capillary fibers of the claimed invention are fibers having a channel along its **outer surface** that extends substantially parallel to the length of the surface capillary fiber. For the purpose to facilitate prosecution only, independent claims 28 and 34 are amended to particularly point out a distinguishing feature of the SCF, i.e. the SCF has a channel along its **outer surface** that extends substantially parallel to the length of the SCF, the channel extending along at least a portion of the length of the SCF.

Figure 1 below is a schematic graphical illustration of a surface capillary fiber with surface channels of the present invention taken from a reference entitled: "4DG? Fibers: [http://web.archive.org/web/201103007001/http://fitfibers.com/4DG\\_Fibers.htm](http://web.archive.org/web/201103007001/http://fitfibers.com/4DG_Fibers.htm) (Oct 30, 2001)." cited in the IDS submitted on June 20, 2008 by the Applicants.

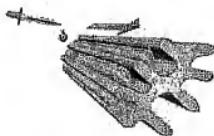


Figure 1

The hollow tubular porous membrane 54 of Deniega and the SCF with surface channels of the claimed invention are clearly not the equivalent structures.

Furthermore, with respect to independent claim 28, Deniega does not teach or suggest a plurality of surface capillary fibers "associated with at least a portion of the surface with an adhesive, mechanical binding, heat bonding or chemical bonding." Thus, Deniega teaches a very different structure from the structures claimed in independent claim 28.

With respect to independent claim 34, Deniega does not teach a device in which a portion of the device has a surface contoured to match a portion of a structure in the patient. To further clarify this relationship, claim 34 has been amended to indicate that the medical device is an implantable device. Thus, the device is a prosthesis that can be placed along a surface of an organ or other structure within the patient along the contoured surface. Deniega does not teach an implantable device or a contoured device ad disclosed and claimed by Applicants.

Based on the discussion above, Deniega therefore does not disclose each and every element of the claimed invention and does not render the claimed invention *prima facie* anticipated. Withdrawal of the rejection is respectfully requested. Applicants do not acquiesce

with respect to the specific issues relating to the dependent claims, but these issues are not commented on further here due to the deficiencies with respect to the independent claims above.

35 U.S.C. §103(a) Rejections

I. Claims 20, 25-27, 47, 49, and 50 are rejected under 35 U.S.C. §103(a) as being unpatentable over Deniega et al. in view of Drobish et al. (U.S. Patent No. 4,623,329). Respectfully, the Applicants maintain that Deniega in view of Drobish do not disclose or suggest each and every element of the claimed invention. Independent claims 20 and 47 are amended to specify that there is a plurality of SCFs used in the claimed invention and the medical device of the claim invention is a percutaneous device or an implantable device.

Element 54 of Deniega is a hollow tubular membrane with pores that can not be interpreted as comparable with a plurality of SCFs with surface channels used in the claimed invention. The grooves of sleeve 10 and drainage tube 2 disclosed in Drobish are liquid reservoirs 13 created between the sleeve 10 and the drainage tube 2 (Col. 5, lines 50-52). With respect to independent claims 20 and 47, Deniega and Drobish alone or combined do not teach or suggest a plurality of surface capillary fibers as claimed. In particular, the references do not teach a plurality of surface capillary fibers associated with at least a portion of a surface of the device.

Deniega in view of Drobish therefore do not teach or suggest each and every element of the claimed invention and do not render independent claims 20 and 47 as well as corresponding dependent claims *prima facie* obvious. Withdrawal of the rejection is respectfully requested. Applicants do not acquiesce with respect to the specific issues relating to the dependent claims, but these issues are not commented on further here due to the deficiencies with respect to the independent claims above.

II. Claims 21, 22, 24, and 52 are rejected under 35 U.S.C. §103(a) as being unpatentable over Deniega et al. in view of Drobish et al. and further in view of DiCarlo et al. (U.S. Patent No. 6,929,626). Claims 21, 22, and 24 are dependent claims of claim 20. Claim 52 is a dependent claim of claim 47. The deficiencies of Deniega et al. in view of Drobish et al. with respect to independent claims 20 and 47 discussed above apply to their respective dependent claims. In particular, Deniega and Drobish do not teach or suggest a plurality of surface capillary fibers with the claimed relationship with the device structure. DiCarlo does not introduce an element that makes up for the deficiencies of Deniega and Drobish. Deniega et al. in view of Drobish et al. and further in view of DiCarlo et al. therefore do not teach or suggest each and every element of the claimed invention and do not render claims 21, 22, 24, and 52 *prima facie* obvious. Withdrawal of the rejection is respectfully requested.

III. Claim 32 is rejected under 35 U.S.C. §103(a) as being unpatentable over Deniega et al. in view of DiCarlo et al. (U.S. Patent No. 6,929,626). Claim 32 is a dependent claim of 28. The deficiencies of Deniega et al. with respect to independent claim 28 discussed above apply to its dependent claims. In particular, Deniega does not teach or suggest a plurality of surface capillary fibers with the claimed relationship with the device structure. DiCarlo does not introduce an element that makes up for the deficiencies of Deniega. Deniega et al. in view of DiCarlo et al. therefore do not teach or suggest each and every element of the claimed invention and do not render claim 32 *prima facie* obvious. Withdrawal of the rejection is respectfully requested.

IV. Claim 23 is rejected under 35 U.S.C. §103(a) as being unpatentable over Deniega et al. in view of Drobish et al. and further in view of Samson et al. (U.S. Patent No. 6,066,149). Claim 23 is a dependent claim of 20. The deficiencies of Deniega et al. in view of Drobish et al. with

respect to independent claim 20 discussed above apply to its dependent claims. Deniega and Drobish alone or combined do not teach or suggest a plurality of surface capillaries with the claimed relationship with the device structure. Samson's disclosure of tPA does not make up for the deficiencies of Deniega and Drobish. Deniega et al. in view of Drobish et al. and further in view of Samson et al. therefore do not teach or suggest each and every element of the claimed invention and do not render claim 23 obvious. Withdrawal of the rejection is respectfully requested.

V. Claim 53 is rejected under 35 U.S.C. §103(a) as being unpatentable over Deniega et al. in view of Drobish et al. and further in view of Bucay-Couto et al. (U.S. Patent Application Publication No. 2003/0018306). Claim 53 is a dependent claim of 20. The deficiencies of Deniega et al. in view of Drobish et al. with respect to independent claim 20 discussed above apply to its dependent claims. Deniega and Drobish alone or combined do not teach or suggest a plurality of surface capillary fibers with the claimed relationship with the device structure. Bucay-Couto does not teach or suggest using surface capillary fibers. The controlled release agent of Bucay-Couto does not make up for the deficiencies of Deniega and Drobish. Deniega et al. in view of Drobish et al. and further in view of Bucay-Couto et al. therefore do not teach or suggest each and every element of claimed invention and do not render claim 53 *prima facie* obvious. Withdrawal of the rejection is respectfully requested.

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,

/Mengmeng Fahrni/

Mengmeng Fahrni, Ph.D., Reg. #57,717

Customer No. 62274  
Dardi & Associates, PLLC  
US Bank Plaza, Suite 2000  
220 South 6<sup>th</sup> Street  
Minneapolis, Minnesota 55402  
Telephone: (404) 214-3664